

## Specification

*MR  
10/5/04*

Antenna, Dielectric Substrate for Antenna,  
and Wireless Communication Card

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## [Technical Field]

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10/11/06* This application is a 371 of PCT/JP03/08919 filed on 07/14/2003. This invention relates to a dual bandwidth antenna technique and broadband antenna technique.

## 10 [Background Technology]

For example, JP-A-57-142003 (Patent Document 1) discloses the following antennas. That is, it discloses a monopole antenna in which a flat-plate type radiation element 3001 having a disc shape is erected vertically to an earth plate or the ground 3002 as shown in Figs. 45A and 45B. This monopole antenna is designed so that a high-frequency power source 3004 and the radiation element 3001 are connected to each other through a power feeder 3003 and the height of the top portion of the radiation element 3001 is set to a quarter wavelength. Furthermore, it also discloses a monopole antenna in which a flat-plate type radiation element 3005 whose upper peripheral edge portion has a shape extending along a predetermined parabola is erected vertically to an earth plate or the ground 3002 as shown in Figs. 45C and 45D. Still furthermore, it discloses a dipole antenna in which two radiation elements 3001 of the monopole antenna shown in Figs. 45A and 45B are symmetrically arranged as shown in Fig. 45E. Still furthermore, it discloses a dipole antenna in which two radiation elements 3005 of the monopole antenna shown in Figs. 45C and 45D are symmetrically arranged as shown in Fig. 45F.

In addition, JP-A-55-4109 (Patent Document 2) discloses the following antennas, for example. That is, a sheet-type elliptical antenna 3006 is erected vertically to a refection surface 3007 so that